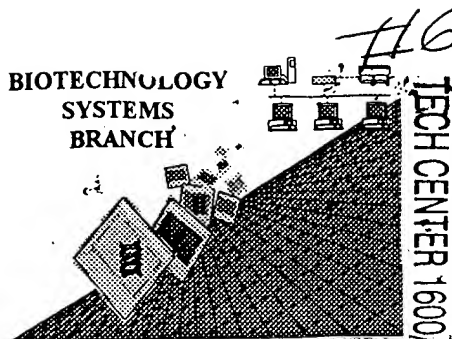


RAW SEQUENCE LISTING ERROR REPORT

BIOTECHNOLOGY
SYSTEMS
BRANCH



NOV 13 2001

RECEIVED

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/677,822

Source: OLPE

Date Processed by STIC: 7/27/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO).

Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

OIPE

RAW SEQUENCE LISTING

DATE: 07/27/2001

PATENT APPLICATION: US/09/677,822

TIME: 10:10:42

Input Set : A:\GC527C2-seqlist.txt

Output Set: N:\CRF3\07272001\I677822.raw

3 <110> APPLICANT: Estell, David
 4 Harding, Fiona
 6 <120> TITLE OF INVENTION: PROTEINS PRODUCING AN ALTERED IMMUNOGENIC RESPONSE AND
 7 METHODS OF MAKING AND USING THE SAME
 9 <130> FILE REFERENCE: GC527C2
 11 <140> CURRENT APPLICATION NUMBER: US 09/677,822
 C--> 12 <141> CURRENT FILING DATE: 2001-07-23
 14 <150> PRIOR APPLICATION NUMBER: US 09/500,135
 15 <151> PRIOR FILING DATE: 2000-02-08
 17 <150> PRIOR APPLICATION NUMBER: US 09/060,872
 18 <151> PRIOR FILING DATE: 1998-04-15
 20 <160> NUMBER OF SEQ ID NOS: 240
 22 <170> SOFTWARE: PatentIn Ver. 2.1
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 1495
 26 <212> TYPE: DNA
 27 <213> ORGANISM: Bacillus amyloliquefaciens
 29 <220> FEATURE:
 30 <221> NAME/KEY: mat_peptide
 31 <222> LOCATION: (417)..(1495)
 33 <220> FEATURE:
 34 <221> NAME/KEY: CDS
 35 <222> LOCATION: (96)..(1244)
 37 <220> FEATURE:
 38 <221> NAME/KEY: misc_feature
 39 <222> LOCATION: (582)..(584)
 40 <223> OTHER INFORMATION: The nnn at positions 582 through 584 which in a
 41 preferred embodiment (aat) is to code for
 42 asparagine, but which may also code for proline.
 44 <220> FEATURE:
 45 <221> NAME/KEY: misc_feature
 46 <222> LOCATION: (585)..(587)
 47 <223> OTHER INFORMATION: The nnn at positions 585 through 587 which in a
 48 preferred embodiment (cct) is to code for proline,
 49 but which may also code for asparagine.
 51 <220> FEATURE:
 52 <221> NAME/KEY: misc_feature
 53 <222> LOCATION: (597)..(599)
 54 <223> OTHER INFORMATION: The nnn at positions 597 to 599 which in a
 55 preferred embodiment (aac) is to code for
 56 asparagine, but which may also code for aspartic acid.
 58 <220> FEATURE:
 59 <221> NAME/KEY: misc_feature
 60 <222> LOCATION: (678)..(680)
 61 <223> OTHER INFORMATION: The nnn at positions 678 through 680 which in a
 62 preferred embodiment (gca) is to code for
 63 alanine, but which may also code for serine.

Does Not Comply
 Corrected Diskette Needed

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NOV 13 2001

TECH CENTER 1600/2900

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/677,822

DATE: 07/27/2001

TIME: 10:10:42

Input Set : A:\GC527C2-seqlist.txt

Output Set: N:\CRF3\07272001\I677822.raw

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65 <220> FEATURE:
66 <221> NAME/KEY: misc_feature
67 <222> LOCATION: (681)..(683)
68 <223> OTHER INFORMATION: The nnn at positions 681 through 683 which in a
69     preferred embodiment (tca) is to code for serine,
70     but which may also code for alanine.
72 <220> FEATURE:
73 <221> NAME/KEY: misc_feature
74 <222> LOCATION: (708)..(710)
75 <223> OTHER INFORMATION: The nnn at positions 708 through 710 which in a
76     preferred embodiment (gct) is to code for
77     alanine, but which may also code for aspartic acid.
79 <220> FEATURE:
80 <221> NAME/KEY: misc_feature
81 <222> LOCATION: (711)..(713)
82 <223> OTHER INFORMATION: The nnn at positions 711 through 713 which in a
83     preferred embodiment (gac) is to code for
84     aspartic acid, but which may also code for alanine.
86 <220> FEATURE:
87 <221> NAME/KEY: misc_feature
88 <222> LOCATION: (888)..(890)
89 <223> OTHER INFORMATION: The nnn at positions 888 through 890 which in a
90     preferred embodiment (act) is to code for
91     threonine, but which may also code for serine.
93 <220> FEATURE:
94 <221> NAME/KEY: misc_feature
95 <222> LOCATION: (891)..(893)
96 <223> OTHER INFORMATION: The nnn at positions 891 through 893 which in a
97     preferred embodiment (tcc) is to code for
98     serine, but which may also code for threonine.
100 <220> FEATURE:
101 <221> NAME/KEY: misc_feature
102 <222> LOCATION: (1167)..(1169)
103 <223> OTHER INFORMATION: The nnn at positions 1167 through 1169 which in
104     a preferred embodiment (gaa) is to code for
105     glutamic acid, but which may also code for glutamine.
107 <400> SEQUENCE: 1
108 ggtctactaa aatattattc catactatac aattaatata cagaataatc tgtctattgg 60
110 ttattctgca aatgaaaaaa aggagaggat aaaga atg aga ggc aaa aaa gta 113
111                                     Met Arg Gly Lys Lys Val
112                                     -105
114 tgg atc agt ttg ctg ttt gct tta gcg tta atc ttt acg atg gcg ttc 161
115 Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu Ile Phe Thr Met Ala Phe
116 -100 -95 -90
118 ggc agc aca tcc tct gcc cag gcg gca ggg aaa tca aac ggg gaa aag 209
119 Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly Lys Ser Asn Gly Glu Lys
120 -85 -80 -75 -70
122 aaa tat att gtc ggg ttt aaa cag aca atg agc acg atg agc gcc gct 257
123 Lys Tyr Ile Val Gly Phe Lys Gln Thr Met Ser Thr Met Ser Ala Ala

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/677,822

DATE: 07/27/2001

TIME: 10:10:42

Input Set : A:\GC527C2-seqlist.txt

Output Set: N:\CRF3\07272001\I677822.raw

```

124          -65          -60          -55
126 aag aag aaa gat gtc att tct gaa aaa ggc ggg aaa gtg caa aag caa 305
127 Lys Lys Lys Asp Val Ile Ser Glu Lys Gly Gly Lys Val Gln Lys Gln
128          -50          -45          -40
130 ttc aaa tat gta gac gca gct tca gct aca tta aac gaa aaa gct gta 353
131 Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr Leu Asn Glu Lys Ala Val
132          -35          -30          -25
134 aaa gaa ttg aaa aaa gac ccg agc gtc gct tac gtt gaa gaa gat cac 401
135 Lys Glu Leu Lys Lys Asp Pro Ser Val Ala Tyr Val Glu Glu Asp His
136          -20          -15          -10
138 gta gca cat gcg tac gcg cag tcc gtg cct tac ggc gta tca caa att 449
139 Val Ala His Ala Tyr Ala Gln Ser Val Pro Tyr Gly Val Ser Gln Ile
140 -5          -1 1          5          10
142 aaa gcc cct gct ctg cac tct caa ggc tac act gga tca aat gtt aaa 497
143 Lys Ala Pro Ala Leu His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys
144          15          20          25
146 gta gcg gtt atc gac agc ggt atc gat tct tct cat cct gat tta aag 545
147 Val Ala Val Ile Asp Ser Gly Ile Asp Ser Ser His Pro Asp Leu Lys
148          30          35          40
Wt-> 150 gta gca ggc gga gcc agc atg gtt cct tct gaa aca nnn nnn ttc caa 593
Wt-> 151 Val Ala Gly Gly Ala Ser Met Val Pro Ser Glu Thr Xaa Xaa Phe Gln
152          45          50          55
Wt-> 154 gac nnn aac tct cac gga act cac gtt gcc ggc aca gtt gcg gct ctt 641
Wt-> 155 Asp Xaa Asn Ser His Gly Thr His Val Ala Gly Thr Val Ala Ala Leu
156          60          65          70          75
Wt-> 158 aat aac tca atc ggt gta tta ggc gtt gcg cca agc nnn nnn ctt tac 689
Wt-> 159 Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Xaa Xaa Leu Tyr
160          80          85          90
Wt-> 162 gct gta aaa gtt ctc ggt nnn nnn ggt tcc ggc caa tac agc tgg atc 737
Wt-> 163 Ala Val Lys Val Leu Gly Xaa Xaa Gly Ser Gly Gln Tyr Ser Trp Ile
164          95          100          105
166 att aac gga atc gag tgg gcg atc gca aac aat atg gac gtt att aac 785
167 Ile Asn Gly Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn
168          110          115          120
170 atg agc ctc ggc gga cct tct ggt tct gct gct tta aaa gcg gca gtt 833
171 Met Ser Leu Gly Gly Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val
172          125          130          135
174 gat aaa gcc gtt gca tcc ggc gtc gta gtc gtt gcg gca gcc ggt aac 881
175 Asp Lys Ala Val Ala Ser Gly Val Val Val Val Ala Ala Ala Gly Asn
176          140          145          150          155
Wt-> 178 gaa ggc nnn nnn ggc agc tca agc aca gtg ggc tac cct ggt aaa tac 929
Wt-> 179 Glu Gly Xaa Xaa Gly Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr
180          160          165          170
182 cct tct gtc att gca gta ggc gct gtt gac agc agc aac caa aga gca 977
183 Pro Ser Val Ile Ala Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala
184          175          180          185
186 tct ttc tca agc gta gga cct gag ctt gat gtc atg gca cct ggc gta 1025
187 Ser Phe Ser Ser Val Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val
188          190          195          200

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/677,822

DATE: 07/27/2001

TIME: 10:10:42

Input Set : A:\GC527C2-seqlist.txt

Output Set: N:\CRF3\07272001\I677822.raw

190 tct atc caa agc acg ctt cct gga aac aaa tac ggg gcg tac aac ggt 1073
 191 Ser Ile Gln Ser Thr Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly
 192 205 210 215
 194 acg tca atg gca tct ccg cac gtt gcc gga gcg gct gct ttg att ctt 1121
 195 Thr Ser Met Ala Ser Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu
 196 220 225 230 235
 W 198 tct aag cac ccg aac tgg aca aac act caa gtc cgc agc agt tta nnn 1169
 W 199 Ser Lys His Pro Asn Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Xaa
 200 240 245 250
 202 aac acc act aca aaa ctt ggt gat tct ttc tac tat gga aaa ggg ctg 1217
 203 Asn Thr Thr Thr Lys Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu
 204 255 260 265
 206 atc aac gta cag gcg gca gct cag taa aacataaaaa accggccttg 1264
 207 Ile Asn Val Gln Ala Ala Ala Gln
 208 270 275
 210 gccccgccgg ttttttttatt ttttttctc cgcattgtca atccgctcca taatcgacgg 1324
 212 atggctccct ctgaaaattt taacgagaaa cggcggttg acccggtca gtcccgtaac 1384
 214 ggccaagtcc tgaaacgtct caatcgccgc ttccgggtt ccggtcagct caatgccgta 1444
 216 acggtcggcg gcgttttctt gataccggga gacggcattc gtaatcggtat c 1495
 219 <210> SEQ ID NO: 2
 220 <211> LENGTH: 382
 221 <212> TYPE: PRT
 222 <213> ORGANISM: Bacillus amyloliquefaciens
 224 <220> FEATURE:
 225 <221> NAME/KEY: VARIANT
 226 <222> LOCATION: (163)...(163)
 227 <223> OTHER INFORMATION: Xaa = Asn or Pro
 229 <220> FEATURE:
 230 <221> NAME/KEY: VARIANT
 231 <222> LOCATION: (164)...(164)
 232 <223> OTHER INFORMATION: Xaa = Pro or Asn
 234 <220> FEATURE:
 235 <221> NAME/KEY: VARIANT
 236 <222> LOCATION: (167)...(167) Xaa is at 168
 237 <223> OTHER INFORMATION: Xaa = Asn or Asp (P.S.)
 239 <220> FEATURE:
 240 <221> NAME/KEY: VARIANT
 241 <222> LOCATION: (195)...(195)
 242 <223> OTHER INFORMATION: Xaa = Ala or Ser
 244 <220> FEATURE:
 245 <221> NAME/KEY: VARIANT
 246 <222> LOCATION: (196)...(196)
 247 <223> OTHER INFORMATION: Xaa = Ser or Ala
 249 <220> FEATURE:
 250 <221> NAME/KEY: VARIANT
 251 <222> LOCATION: (205)...(205)
 252 <223> OTHER INFORMATION: Xaa = Ala or Asp
 254 <220> FEATURE:
 255 <221> NAME/KEY: VARIANT

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/677,822

DATE: 07/27/2001

TIME: 10:10:42

Input Set : A:\GC527C2-seqlist.txt

Output Set: N:\CRF3\07272001\I677822.raw

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256 <222> LOCATION: (206)...(206)
257 <223> OTHER INFORMATION: Xaa = Asp or Ala
259 <220> FEATURE:
260 <221> NAME/KEY: VARIANT
261 <222> LOCATION: (265)...(265)
262 <223> OTHER INFORMATION: Xaa = Thr or Ser
264 <220> FEATURE:
265 <221> NAME/KEY: VARIANT
266 <222> LOCATION: (266)...(266)
267 <223> OTHER INFORMATION: Xaa = Ser or Thr
269 <220> FEATURE:
270 <221> NAME/KEY: VARIANT
271 <222> LOCATION: (358)...(358)
272 <223> OTHER INFORMATION: Xaa = Gln or Glu
274 <400> SEQUENCE: 2
275 Met Arg Gly Lys Lys Val Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu
276 1 5 10 15
277 Ile Phe Thr Met Ala Phe Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly
278 20 25 30
279 Lys Ser Asn Gly Glu Lys Lys Tyr Ile Val Gly Phe Lys Gln Thr Met
280 35 40 45
281 Ser Thr Met Ser Ala Ala Lys Lys Lys Asp Val Ile Ser Glu Lys Gly
282 50 55 60
283 Gly Lys Val Gln Lys Gln Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr
284 65 70 75 80
285 Leu Asn Glu Lys Ala Val Lys Glu Leu Lys Lys Asp Pro Ser Val Ala
286 85 90 95
287 Tyr Val Glu Glu Asp His Val Ala His Ala Tyr Ala Gln Ser Val Pro
288 100 105 110
289 Tyr Gly Val Ser Gln Ile Lys Ala Pro Ala Leu His Ser Gln Gly Tyr
290 115 120 125
291 Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp Ser Gly Ile Asp Ser
292 130 135 140
293 Ser His Pro Asp Leu Lys Val Ala Gly Gly Ala Ser Met Val Pro Ser
294 145 150 155 160
W--> 295 Glu Thr Xaa Xaa Phe Gln Asp (Xaa) Asn Ser His Gly Thr His Val Ala
296 165 170 175
297 Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala
298 180 185 190
W--> 299 Pro Ser Xaa Xaa Leu Tyr Ala Val Lys Val Leu Gly Xaa Xaa Gly Ser
300 195 200 205
301 Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu Trp Ala Ile Ala Asn
302 210 215 220
303 Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly Pro Ser Gly Ser Ala
304 225 230 235 240
305 Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala Ser Gly Val Val Val
306 245 250 255
W--> 307 Val Ala Ala Ala Gly Asn Glu Gly Xaa Xaa Gly Ser Ser Ser Thr Val
308 260 265 270

```

Use of n and/or Xaa has been detected in the Sequence Listing.
 Review the Sequence Listing to insure a corresponding
 explanation is presented in the <220> to <223> fields of
 each sequence using n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/677,822

DATE: 07/27/2001

TIME: 10:10:43

Input Set : A:\GC527C2-seqlist.txt

Output Set: N:\CRF3\07272001\I677822.raw

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:150 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:151 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:155 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:158 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:159 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:162 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:178 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:179 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:198 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:199 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:295 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2

L:299 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2

L:307 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2

L:319 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2